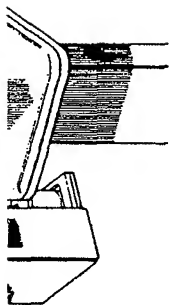


Appendix 1



Schematic of a fully automatic, cassette-loaded, epitaxial reactor. Key: 1,4: Cassette ports; 2: wafer transfer chamber; 3: process chamber; 5: wafer handling mechanism.
Courtesy of ASM Epitaxy, Phoenix, Arizona.

VLSI FABRICATION PRINCIPLES

Silicon and Gallium Arsenide

Second Edition

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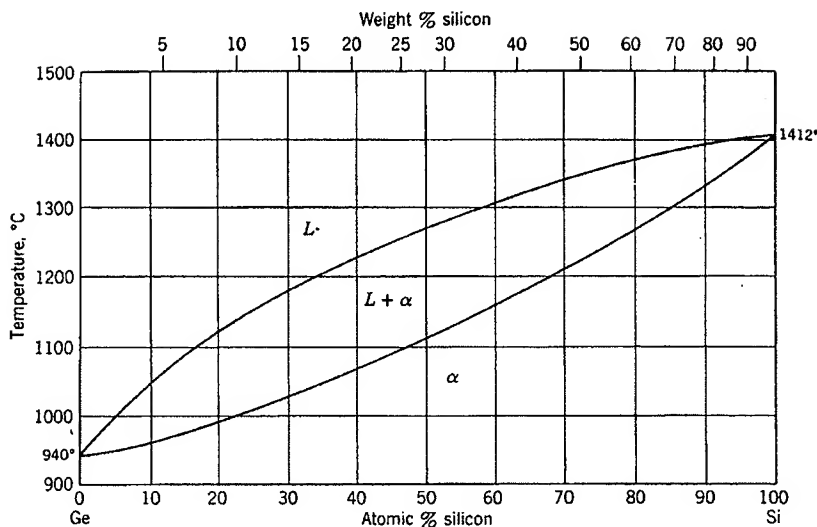


Fig. 2.3 Binary isomorphous phase diagram: The Ge-Si System. from Hansen and Anderko, *Constitution of Binary Alloys*, McGraw-Hill, New York (1958) [2]. Used with permission of the McGraw-Hill Book Company.

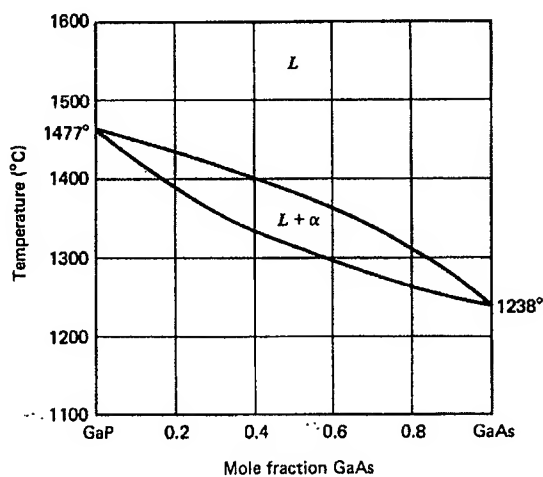


Fig. 2.4 The GaAs-GaP system. From Antypas [5]. Reprinted with permission of the publisher, The Electrochemical Society, Inc.

this reason, and most electronic properties of

The energy gap of n two extremes associated only approximately linear is given by

The indirect gap (χ)

Combining these effects $x \leq 0.43$, but indirect gap of indirect gap $\text{Al}_x\text{Ga}_{1-x}$ tors. Moreover, the surface dangling when its surface dangling an extension of its crystal exploited in the fabrication

The ternary alloy $\text{GaAs}_{0.6}\text{P}_{0.4}$ is mismatched device quality material thick buffer layer, graded top, is grown between the misfit dislocations which the GaAs substrate.

More complex solid made. For example, $\text{In}_x\text{Ga}_{1-x}\text{As}_y\text{P}_{1-y}$ and are used in some device scope of this book.

2.2.4 Eutectic Diagrams

Eutectic diagrams result its overall freezing point of molten mixture has a minimum value is known as the eutectic temperature is called the eutectic composition components are completely soluble in the solid phase Referring to Fig. 2.4